IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~A~~ An inkjet coating composition, comprising;

at least one hydrophobic filler selected from the group consisting of a precipitated silica, a pyrogenic silica, a silicate or a synthetic pigment; and a binder;

wherein the hydrophobic filler has a carbon content of from 0.1 to 5% by weight.

Claim 2 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler is surface treated.

Claim 3 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler comprises at least one filler particle having a surface treated with at least one surface treating agent selected from the group consisting of silicon oil, dimethylpolysiloxanes, $R_2R'Si$-, hexamethyl disilazane, octamethyl tetrasilane, $R_3Si\text{-}C_nH_{2n+1}$, trimethoxy octylsilane, polymethyl siloxanes, polymethyl siloxane emulsions, trimethyloxyhexadecyl silane, aminopropylsilane, vinylsilane, methacrylic silane, and combinations thereof, wherein in the formulas above, R is independently CH_3O-, C_2H_5O-, C_3H_7-O-, or Cl-; R' is CH_3-, C_2H_5-; and n=1-18.

Claim 4 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler has a DBP uptake of 50-350 g/100 g.

Claim 5 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler has a methanol wettability of 10-80%.

Claims 6 (Cancelled).

Claim 7 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler has a surface area of 50-800 m^2/g.

Claim 8 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler has a particle size of less than 15 μm.

Claim 9 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said binder is a polymer selected from the group consisting of polyamide, polyethyleneneimine, polyacrylamide, cationic-modified polyvinyl alcohol, polyvinyl alcohol, polyvinyl pyridine, amino-substituted polyacrylate, amino-substituted polyether, amino-substituted polyester, polyvinylpyrollidone, vinyl acetate, poly(meth)acrylate, starch, cellulose, latex, copolymers thereof, and combinations thereof.

Claim 10 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said binder is selected from the group consisting of polyvinyl alcohol, polyvinylpyrollidone/vinyl acetate copolymer, and combinations thereof.

Claim 11 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said binder is present in the coating in an amount ranging from 10-90 parts by weight, based on 100 parts by weight of the coating.

Claim 12 (Currently Amended): The inkjet coating composition according to Claim 1, comprising a solids content ranging from 2 to 40% by weight, based on the total weight of the coating.

Claim 13 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler comprises one or more particles selected from the group consisting of ~~silicas~~, precipitated silica, pyrogenic silica, silicates, calcium silicate, aluminum silicate, sodium aluminum silicate, aluminum polysilicate, naturally occurring pigments, synthetic pigments aluminum oxide, clay, benthonite, calcined clay, precipitated calcium carbonate, mica, montmorillonite, kaolinite, asbestos, talc, diatomaceous earth, vermiculite, natural and synthetic zeolites, cement, glass, and combinations thereof.

Claim 14 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler comprises one or more particles selected from the group consisting of ~~silica,~~ precipitated silica, pyrogenic silica, silicate, calcium silicate, aluminum silicate, sodium aluminum silicate, aluminum polysilicate, and combinations thereof.

Claim 15 (Currently Amended): The inkjet coating composition according to Claim 1, wherein said hydrophobic filler comprises one or more particles selected from the group including ~~silicas,~~ precipitated silica and pyrogenic silica.

Claim 16 (Withdrawn, Currently Amended): An inkjet media, comprising the inkjet coating composition according to Claim 1 coated on a substrate.

Claim 17 (Withdrawn): The inkjet media according to Claim 16, wherein said substrate is selected from the group consisting of plain paper, resin coated paper, cloth, wood, metal plates, films or sheets of polyester resins, diacetate resins, triacetate resins, acrylic resins, polycarbonate resins, polyvinyl chloride resins, polyimide resins, and combinations thereof.

Claim 18 (Withdrawn): The inkjet media according to Claim 16, wherein said substrate is transparent or opaque.

Claim 19 (Withdrawn): A method of inkjet printing, comprising inkjet printing at least one inkjet ink onto a substrate coated with the coating according to Claim 1.

Claim 20 (Currently Amended): ~~A~~ An inkjet coating composition, comprising:

a hydrophobic filler comprising at least one filler particle and a means for making said particle hydrophobic; and

a means for binding said hydrophobic filler,

wherein the hydrophobic filler has a carbon content of from 0.1 to 5% by weight.

Claim 21 (Withdrawn): An inkjet media, comprising:

(a) a coating composition, comprising:

(i) a hydrophobic filler comprising at least one filler particle and a means for making said particle hydrophobic, and

(ii) a means for binding said hydrophobic filler; and

(b) a means for supporting said coating composition in contact with said coating composition.

Claim 22 (Withdrawn, Currently Amended): A method for inkjet printing, comprising a step for inkjet printing onto an inkjet media, comprising:

(a) ~~a~~ an inket coating composition, comprising:

(i) a hydrophobic filler comprising at least one filler particle and a means for making said particle hydrophobic, and

(ii) a means for binding said hydrophobic filler; and

(b) a means for supporting said coating composition in contact with said coating composition.

Claim 23 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler has a carbon content of 0.5 to 2.5% by weight.

Claim 24 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the filler has a carbon content of from 0.1 to 1.0% by weight.

Claim 25 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler has a methanol wettability of from 10 to 20%.

Claim 26 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler is obtained by homogeneously mixing a silicon oil with particles of at least one filler.

Claim 27 (Currently Amended): The inkjet coating composition of Claim 26, wherein the hydrophobic filler is washed free of salt after homogeneously mixing.

Claim 28 (Currently Amended): A coating present on the surface of a substrate, wherein said coating comprises the inkjet coating composition of Claim 1.

Claim 29 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler is a partially hydrophobic filler.

Claim 30 (Currently Amended): The inkjet coating composition according to Claim 1, consisting essentially of water, the hydrophobic filler and the binder.

Claim 31 (Currently Amended): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler comprises a silicon-containing surface treating agent chemically fixed to a filler particle.

Claim 32 (Currently Amended): The inkjet coating composition according to Claim 1, comprising at least one hydrophobic filler selected from the group consisting of a precipitated silica, a pyrogenic silica, and a silicate.

Claim 33 (Currently Amended): The inkjet coating composition according to Claim 1, comprising at least one hydrophobic filler comprising a precipitated silica.

Claim 34 (Currently Amended): The inkjet coating composition according to Claim 1, comprising at least one hydrophobic filler comprising a pyrogenic silica.

Claim 35 (Currently Amended): The inkjet coating composition according to Claim 1, comprising at least one hydrophobic filler comprising a silicate.

Claim 36 (New): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler is a hydrophobic or a partially hydrophobic precipitated silica.

Claim 37 (New): The inkjet coating composition according to Claim 1, wherein the hydrophobic filler is a silica obtained by coating a precipitated silica, a pyrogenic silica, a silicate or a synthetic pigment with a silicon oil containing cationic groups.

Claim 38 (New): The inkjet coating composition according to Claim 37, wherein the silicon oil has quaternary ammonium groups.

Claim 39 (New): In an inkjet coating composition comprising at least one hydrophobic filler and a binder, wherein the improvement comprises:

at least one of a hydrophobic precipitated silica, a hydrophobic pyrogenic silica or a hydrophobic silicate surface treated with at least one surface treating agent selected from the group consisting of a silicon oil, a dimethylpolysiloxane, a hexamethyl disilazane, an octamethyl tetrasilane, a trimethoxy octylsilane, a polymethyl siloxane, a polymethyl siloxane emulsion, a trimethyloxyhexadecyl silane, an aminopropyl silane, a vinylsilane, and a methacrylic silane;

and having a carbon content of from 0.1 to 5% by weight.

Claim 40 (New): The coating of Claim 28, wherein the coating is water absorbent.

BASIS FOR THE AMENDMENT

Claims 1-5 and 7-40 are active in the present application. The claims have been amended to require that the coating composition is an inkjet coating composition. Support for the amendment is found on page 1, lines 6-7. Claims 13-15 have been amended in the Markush group to delete silica. Claims 16-19 and 21-22 are currently withdrawn from consideration. Support for new dependent Claim 37 is found on page 4, lines 3-6). Support for new Claim 38 is found on page 4, lines 4-6. Support for new Claim 39 is found in the original claims. Support for new Claim 40 is found on page 11, lines 20-32. No new matter is added.

REQUEST FOR RECONSIDERATION

Applicants thank Examiner Wood for the helpful and courteous discussion of July 30, 2004. During the discussion, Applicants' U.S. representative presented arguments that an ink-jet coating composition is different from the coating compositions disclosed and described in the prior art references relied upon by the Office.

Applicants' U.S. representative further pointed out that priority was timely requested in the present application as evidenced by the Request for Priority filed in this case with a copy of the priority document on June 23, 2001. The Examiner reviewed the filings of June 23, 2001 and agreed that a Request for Priority was timely filed in the present application and further agreed to acknowledge priority under 35 U.S.C. § 119 in the next communication from the Office.

The claims have been amended to require that the coating composition is an inkjet coating composition. Applicants submit that the term "inkjet coating composition" limits the coating composition to those compositions which are suitable for use in inkjet printing applications (see page 1, lines 6-7). An inkjet coating composition is different from a generic coating composition because an inkjet composition must exhibit properties that are compatible with inkjet printing. For example, an inkjet coating composition may not contain a desorbable oil because the oil may either stain the substrate upon which the coating composition is applied or reduce ink-fastness to the substrate.

Inkjet coating compositions must have the ability to absorb ink quickly to provide a dry printed substrate that does not smear upon contact. In the same regard, an inkjet coating composition must enable a substrate to absorb ink and provide crisp character definition without blurring.

Applicants submit that the term "inkjet coating" is an affirmative limitation of the presently active claims. The presence of this term in the preamble of the claims serves to limit the coating compositions to compositions coated onto substrates that accept inks imparted onto the substrate through an inkjet process. This term in the preamble of the claims does not merely act as an indication of an intended use but serves to distinguish the claimed compositions from prior art compositions. "The determination of whether preamble recitations are structural limitations or mere statements of purpose or use can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim." Rowe v. Dror, 42 USPQ2d 1550 at 1553 (CAFC 1997) citing to Corning Glass Works v. Sumitomo Elec. U.S., Inc., 9 USPQ 2d 1962, 1966 (Fed. Cir. 1989). Applicants submit that by looking at the claims and specification of the present application, the term "inkjet coating" in the preamble of the presently active claims serves to distinguish the claimed invention from the prior art relied upon by the Office. Applicants draw the Office's attention to the disclosure in the Field of the Invention section on page 1 of the specification:

> The invention relates to brush-on paints for inkjet media such as, for example, paper, films and textiles, and their use in the production and finishing of inkjet jet media.

It is further disclosed in the Summary of the Invention section of the present specification:

> It is an object of the present invention to provide brush-on paints for inkjet media which are used for coating.

This theme is maintained throughout the present specification and is mirrored in the Examples beginning on page 4 of the specification wherein the performance of substrates coated with the invention compositions are tested for their compatibility with inkjet printing

processes. The results of the experiments demonstrate properties desirable in inkjet media such as ink absorbability, color fastness, and drying properties (see Tables 2-5).

Therefore the term "inkjet coating composition" as a limitation of the claimed composition is consistent with the description in the specification.

New independent Claim 39 has been added. New independent Claim 39 is written in Jepson format. Independent Claim 39 is drawn to an improvement in an ink jet coating composition. Federal Circuit has determined that the claim preamble in Jepson claims defines not only the context of the claimed invention but also its scope. Rowe v. Dror, 42 USPQ2d 1550, 1543 (Fed. Cir. 1997) citing to Pentec, Inc. v. Graphic Controls, Corp., 227 USPQ 766, 770 (Fed. Cir. 1985). In the Rowe case the Federal Circuit determined that the claim term "angioplasty" in a preamble reciting "In a balloon angioplasty catheter of the type...; the improvement comprising..." was in fact a structural limitation.

In fact, the court stated:

> Inspection of the entire record in this case reveals that "angioplasty" is, in fact, a structural limitation of Rowe's claims. To begin with, the form of the claim itself, the so-called "Jepson" form, suggests the structural importance of the recitations found in the preamble. The Jepson form allows a patentee to use the preamble to recite "elements or steps of the claimed invention which are conventional or known." 37 C.F.R. § 1.75(e) (1996). When this form is employed, the claim preamble defines not only the context of the claimed invention, but also its scope. See Pentec, Inc. v. Graphic Controls Corp., 227 USPQ 766, 770 (Fed. Cir. 1985) ("although a preamble is impliedly admitted to be prior art when a Jepson claim is used,... the claimed invention consists of the preamble in combination with the improvement.") (citations omitted); United States Patent and Trademark Office, Manual of Patent Examining Procedure Section 608.01(m)(6th ed. rev. Sept. 1995) ("[The Jepson form of claim] is to be considered a combination claim. The preamble of this form of claim is considered to positively and clearly include all the elements or steps recited therein as part of the claimed

> combination."). Thus, the form of the claim itself indicates Rowe's intention to use the preamble to find, in part, the structural elements of this claimed invention.

Applicants submit that the term "inkjet coating" in new independent Claim 39 is a structural limitation and limits the claimed compositions to those which are inkjet coatings compositions. Applicants submit that the subject matter of new independent Claim 39 is patentable over the prior art of record because none of the prior art references disclose inkjet coating compositions.

The present specification incorporates by reference the disclosure of Technical Information No. 1212 of Degussa-Heuls, Business Unit FP. The technical information sheet describes inkjet media and the coatings and compositions used to prepare coatings for the surfaces thereof. It is disclosed in the 1212 technical information sheet that inkjet coating compositions must provide silica-based materials that "allow for rapid ink absorption, thereby promoting sharp edge acuity, spheric and defined spreading of the ink drop, no shine-through or strike-through of the inks, and excellent image density." It is disclosed on page 4 of the technical information sheet that conventional coating compositions which may contain materials such as Sipernat 310 or Aerosil Mox 170 are "basic inkjet coating formulations" (page 4, lines 21-22). This basic inkjet coating composition is provided as the "standard recipe" in Table 1 on page 13 of the present specification.

As a contrasting description for defoamers, Applicants provide herewith "Schriftenreihe Fine Particles," No. 42 Degussa, A.G. (not available in English until October 2004). The desired characteristics of defoaming compositions are provided on page 7 of the attached sheets in the boxed text. Therefore a defoamer composition must:

- be insoluble in the foaming media;
- be easy do disperse in the foaming media;

- be chemically inert;

- have a lower surface tension/energy then the foaming media.

Applicants submit that such properties have nothing in common with the properties of inkjet coating compositions disclosed in the technical information sheet mentioned above.

The Office rejected the claims under 35 U.S.C. § 103(a) in view of any one of Tsuneta (U.S. 5,213,846); Jung (U.S. 6,270,855); Malek (U.S. 4,138,527); Ara (U.S. 5,106,675); or Lux (U.S. 6,191,122). Applicants traverse the rejection on the grounds that the inkjet coating composition of the present claims is not obvious in view of the prior art compositions which are, for example, architectural coatings or defoaming agents, which are not inkjet coating compositions.

With regards to Jung, Applicants note that the prior art composition is a "powder coating composition for metal substrates" (Abstract, line 1). The Jung invention is described as:

> "The present invention relates to powder coating compositions for metal substrates that, after application, demonstrate excellent adhesion, weatherability, barrier properties, and flexibility; to a method of powder coating a metal substrate; and to a metal article, such as a metal can or container, or a material of construction, such as aluminum siding, having at least one surface coated with an adherent layer of a powder coating composition" (col. 1, lines 15-23).

The coating compositions of Jung are therefore powder compositions that are used as coatings on metal substrates. In contrast, the presently claimed coating composition is an inkjet coating composition. Applicants submit that the presently claimed inkjet coating composition cannot be obvious in view of the compositions of Jung, at least because Jung discloses powder compositions for coating metal substrates (see for example, col. 3, lines 51-65). Nowhere is the powder composition of Jung disclosed as an inkjet coating composition

or a coating composition that has properties such as ink absorbability that are desirable in inkjet coating media.

Applicants submit that the present claims to inkjet compositions are not obvious in view of the prior art at least because of the different character of the metal coating compositions of Jung, and the different properties that may be found desirable therein.

Tsuneta discloses "corrosion resistant coating compositions" (Abstract, line 1). As discussed above discussed for the Jung patent, the compositions of Tsuneta are not described as inkjet coating compositions. For example, the compositions of Tsuneta are described as coatings for metal surfaces (e.g., "it is an object of the present application to provide a coating composition to obtain a surface-treated steel plate excellent in corrosion resistance and cation electrodeposition coating properties" (col. 2, lines 11-14)). Properties such as weldability (col. 5, line 18) and the use of the prior art composition as an undercoating material for steel plates (col. 5, lines 55-68) indicates that the Tsuneta composition may not be suitable for inkjet coating compositions. Nowhere in Tsuneta is it disclosed that the prior art compositions have properties desirable for inkjet coating compositions.

Moreover, Tsuneta discloses that hydrogen bonding is formed between steel plate surfaces and the silanol groups present on the surface of the silica particles of the prior art corrosion resistant coating compositions. The structure of the Tsuneta silica must therefore include silanol groups that may bond to steel substrates. Such silanol groups may impart greater hydrophilic characteristics to the prior art compositions rendering them unsuitable for the claimed inkjet coating compositions which require hydrophobic fillers. Further, the anti-corrosion coatings of any of Tsuneta, Jung or Ara are not disclosed to have the ink absorbability characteristics of an ink-jet coating composition.

Applicants submit that the inkjet coating composition of the present claims is not obvious in view of the metal-coating compositions of Tsuneta because the Tsuneta compositions are not inkjet coating compositions and do not have the properties, such as, ink absorbability and ink fastness, that the claimed inkjet coating composition is able to provide.

Ara discloses nonaqueous coating compositions (see title). The Ara invention is described as:

> "This invention relates to a nonaqueous coating composition which has very little solubility to a film formed by a metal surface treatment such as chromate treatment and phosphate treatment, which forms, as a metal surface treating composition, a film having alkali resistance to degreasing with the alkali and solvent resistance to degreasing with a solvent, and which imparts a metal with formability free from application of a press oil to the metal, corrosion resistance, adhesion to an overcoating and *resistance to stains such as a finger mark*" (col. 1, lines 7-15).

Therefore, as discussed above for Jung and Tsuneta, the Ara invention composition is used for coating metals. The Ara invention is specifically disclosed to resist stains. Applicants submit that the coating composition of Ara is not an inkjet coating composition and cannot render obvious the claimed inkjet coating composition because the prior art coating composition resists stains, and presumably ink markings) and does not exhibit properties such as ink fastness and ink absorbability that are required in inkjet coating compositions.

Lux describes a partially hydrophobic precipitated silica that is prepared by mixing a water-repellant agent with a precipitated silica suspension (Abstract, lines 1 and 6-8). It is disclosed that the prior art hydrophobic precipitated silica is useful in, for example, defoaming agents (see Abstract, last sentence).

The manner of making the prior art silica is described at col. 4, lines 41-52. The prior art silica is prepared by mixing a silicon oil with a precipitated silica suspension (col. 4, lines 53-55). The silicon oils that may be used in the prior art silica are described at col. 5, lines 47-58. Polymethylsiloxanes are disclosed but are not described to bind directly to the surface of the silica. Applicants therefore submit that the silicon oils present in Lux may dissociate from the silica particles and the Lux defoaming compositions may therefore be inappropriate for use as an inkjet coating composition because the silicon oil would smudge the substrate surface and cause blurring of inks (e.g., as the ink is dispersed or dissolved in the silicon oil). (See also the discussion above in the paragraph bridging pages 14 and 15 of the present Amendment regarding the characteristics of defoaming compositions and their applicability as ink jet compositions.)

Malek was issued on February 6, 1979 and has a priority date of July 1, 1976. Applicants submit that those of ordinary skill in the art readily recognize that this date is before the date that inkjet printing was commercially available or in fact invented. As support for Applicants' assertion, Applicants attach herewith a timeline of inkjet technology obtained from www.hp.com. As is evident from the information provided thereon, thermal inkjet technology was first invented in 1979.

Obviously, because inkjet printing was not invented until after the Malek application had been filed in the U.S., Malek could not have contemplated inkjet coating compositions. Further, Malek discloses that coatings prepared with the prior art compositions can be marked using ordinary writing and painting pens, such as, felt, fiber, and ball point pens. These pens can utilize a wide variety of solvent-containing aqueous inks in addition to "India inks and colored inks." Importantly, the silica of the Malek compositions is present not as a means for

absorbing or improving the character definition of inkjet printing but rather as a matting agent (col. 4, lines 3-10).

Applicants submit that the claimed inkjet coating composition cannot be obvious in view of Malek on the grounds that those of ordinary skill in the art would not turn to Malek's silica containing matting agent for direction in preparing compositions that improve ink fastness and ink absorbability.

Applicants attach herewith a photomicrograph of two inkjet printing papers. The inkjet printing papers shown on the photomicrographs have a top inkjet side and a back markable side. It is evident from the photomicrographs that the top side (that side whereupon an inkjet image would be printed) is prepared from a finer material than the backside. The backside of the material is markable with conventional marking means such as felt tip pens or ink pens. The backside layer is not suitable for inkjet printing.

Applicants submit that those of ordinary skill in the art recognize that a substrate suitable for inkjet printing has surface and compositional characteristics that are different from the surface and compositional characteristics of a substrate designed for conventional marking. This is evidenced by the photomicrographs which show that a substrate may have different surfaces for different purposes including a surface for inkjet printing having a different structure than the surface for conventional marker means printing.

Applicants submit that the photomicrographs support Applicants' assertion that the markable surfaces of Malek would not lead one of ordinary skill in the art to prepare the claimed inkjet coating composition.

New dependent Claim 36 further limits independent Claim 1 to require the presence of a hydrophobic or partially hydrophobic precipitated silica. Malek nowhere describes a

precipitated silica. Therefore, new dependent Claim 36 is novel and not obvious in view of Malek. With regards to the subject matter of new dependent Claim 36, Applicants submit that the use of a precipitated silica in the claimed compositions provides significantly superior inkjet coating compositions. In the Examples presented in the specification as originally filed (Table 1 on page 13), Examples 1, 2, 5 and 6 are compositions prepared from precipitated silica. As is evident from the viscosity information, these materials provide a lower viscosity than the other examples which are not prepared from a precipitated silica.

New dependent Claims 37 and 38 limit the hydrophobic filler of Claim 1 to a silica obtained by coating a precipitated or pyrogenic silica or a silicate or synthetic pigment with a silicon oil containing cationic groups. Dependent Claim 38 limits the silicon oil to one containing quaternary ammonium groups. None of the prior art references relied upon by the Examiner explicitly recite that the silica fillers of the prior art compositions are treated with such silicon oils. Applicants therefore submit that the subject matter of at least new dependent Claims 37 and 38 is allowable over the prior art of record.

Applicants submit that the amendment to the claims places all now-pending claims in condition for allowance. Applicants respectfully request the withdrawal of the rejections and the passage of all now pending claims to Issue.

Respectfully submitted,

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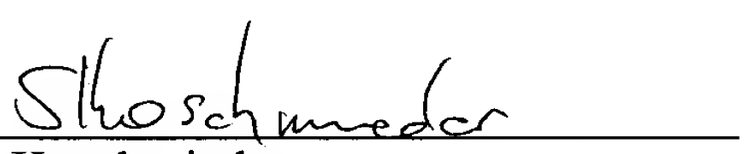

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